

DUDNIK, O.M. [Dudnyk, O.M.]; SOLODOVNIK, Yu.V. [Solodovnyk, IU.V.]

Polytechnical training of biology teachers for secondary schools
at the Cherkassy Teachers' Institute. Nauk. zap. ChDPI 8:3-10 '56.

(MIRA 11:2)

(Cherkassy--Teachers, Training of)

(Biology--Study and teaching)

SOLODOVNIK, Yu.V. [Solodovnyk, IU.V.]

Method of studying the effect of carbon dioxide concentration
in aqueous solutions on photosynthesis. Nauk zap. ChDPI 8:15-18
'56. (MIRA 11:2)

(Photosynthesis)

SOLODOVNIK, Yu.V. [Solodovnyk, IU.V.]

Preseeding treatments of seeds as a factor furthering germination,
growth during the initial stage of development, and yields of some
farm crops. Nauk. zap. ChDPI 8:69-88 '56. (MIRA 11:2)
(Growth promoting substances)
(Field crops)

M-6

Country : USSR
 CATEGORY : Cultivated Plants - Forage Crops
 ABS. JOUR. : RZBiol., No. 19, 1958 No. 87090
 AUTHOR : Solodovnik, Yu. V.
 INST. : Cherkask State Pedagogical Institute
 TITLE : Dynamics of Development and Accumulation of
 Roots of Some Perennial Grasses in the
 Tillage Layer on Different Sowing Procedures
 ORIG. PUB. : Nauk. zap. Cherkas'k. derzh. ped. in-t,
 1957, 11, 217-229
 ABSTRACT : In 1953-1954 the institute conducted tests
 on planting of perennial grasses singly and in mixtures.
 It was found that the root system of legumes and cereal
 grasses is found predominantly within the tillage layer.
 The greatest amount of roots was produced by blue alfalfa
 in admixture with narrowleaf wheatgrass. Within 2-3 years
 the amount of roots increased 2-3 times, reaching 44-98
 centners/hectare of air-dry material per 1 hectare of
 tillage layer. With increase of the amount of roots an
 increase took place in the yields of hay. Data are presented
 concerning ratios of the amounts of roots of cereal and
 leguminous perennial grasses within different depth levels
 of the soil. Bibliography 17 references.-- V. S. Shmal'ko.
 CARD:///

SOLODOVNIK, Yu.V. [Solodovnyk, IU.V.], dots.

Effect of fertilizers on the growth and frost resistance of certain
varieties of pears in their young age. Nauk. zap. ChDPI 11:275-287
'57. (MIRA 11:5)

(Pear) (Fertilizers and manures)

1941: 1941, 1. 1. 1941, 1. 1. 1941.

"Selection of the and Methods for Calculation its Elements."

Aviatsiya i Tekhnika, Vol. 6, No. 1-3, 1941.

Solodovnikov A.A.
USSR/Physical Chemistry. Molecule. Chemical bond.

B-4

Abs Jour : Ref Zhur - Khimiya No 7, 1957, 21978

Author : Neporent B. S. and Solodovnikov A. A.

Inst : None

Title : Effect of Helium on the intensity of spectra of vapors of complex aromatic compounds.

Orig Pub : Optika i spektroskopiya, 1956, 1, No 7, 951-952

Abstract : Continuing the investigation of the effect of light gases on absorption coefficient of vapors of complex aromatic substances (Neporent B. S. Dokl. AN SSSR, 1950, 72, 35; Zh. eksperim. i teor. fiziki, 1951, 21, 172), the effect of He on the intensity of absorption and fluorescence of vapors of 3-dimethylamino-6-aminophthalimide (I) was studied. Addition of He decreases absorption coefficient of rarified gases of I, and at each pressure of I (0.15, 0.05 and 0.008 mm Hg) there is a "saturation" of the decrease in intensity of fluorescence (absorption coefficient), whereby the magnitude of the limiting weakening is increased and the pressure of He, at which this weakening is reached, is decreased as the elasticity of the vapors of substance under investigation is de-

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SOLODOVNIKOV, A. A.

GRENISHIN, S.G.; SOLODOVNIKOV, A.A.

Absorption spectra of silver bromide crystals. Zhur.nauch.i
prikl.fot.i kin. 2 no.4:243-252 J1-Ag '57. (MIRA 10:7)

1. Gosudarstvennyy opticheskiy institut imeni S.I. Vavilova.
(Photography--Developing and developers)

Solodovnikov, A. A.

51-6-21/25

AUTHORS: Grenishin, S. G., and Solodovnikov, A. A.

TITLE: Some Remarks on Measurement of Spectral Absorption.
(Nekotoryye zamechaniya ob izmerenii spektral'nogo
pogloshcheniya.)

PERIODICAL: Optika i Spektroskopiya, 1957, Vol. III, Nr. 6.,
pp. 665-668. (USSR)

ABSTRACT: The authors discuss errors in the measurement of
spectral absorption which are due to the presence
of scattered light in a spectrophotometer. Such
light may be due to dust, scratches on prisms, lenses
etc., reflection from the slit or diaphragm edges,
and so on. Scattered light may be a mixture of
all wavelengths emitted by the source or it may be
localized in a narrow spectral region. The effect
of scattered light will depend on its intensity,
spectral composition, on the magnitude of spectral
density measured, on spectral sensitivity of the
receiver and on other factors. It is shown that
precision of measurement of the spectral coefficient

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51-6-21/25

Some Remarks on Measurement of Spectral Absorption.

of absorption is determined by the ratio of the scattered light to the radiation to be measured. The authors discuss two cases: (1) measurement of optical densities at steep edges of absorption spectra, (2) measurement of optical densities of spectrally neutral objects (attenuators). Due to the presence of scattered light in a spectrophotometer the measured optical densities at steep edges of absorption bands are found to be too low. The intensity of scattered light may be considerably reduced by the use of appropriate light filters, or by double monochromatization. By way of example, Fig.1 shows the results of measurements of absorption, by a differential method, of a layer of solution of a yellow dye relative to absorption by another dye. At high optical densities (low transmissions), instead of a monotonic rise of spectral absorption with decrease of wavelength, a hump-like band which does not really exist is observed. A similar band was found by several workers (Refs.1-4) in the study of the edge of the intrinsic absorption in crystals of silver chloride

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SOLODOVNIKOV, A. A.

"The Dependence of Spectral Absorption in Silver Bromide Crystals on Temperature," by S. G. Grenishin and A. A. Solodovnikov, Optical Institute imeni S. I. Vavilov, Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 27, No 2, Feb 57, pp 262-268

The results of the above work, are summarized as follows:

"1. During the heating of a silver bromide crystal from room temperature to the fusion point, the edge of the self-absorption band is displaced into the long-wave portion of the spectrum. This displacement, with the coefficient of absorption κ , equal to 50 per millimeter, was of the order of 0.16 millimicron per degree in the temperature range from 0-400 degrees C.

"2. The introduction of silver sulfide or cadmium bromide impurities in the crystals of silver bromide in concentrations of from 0.01 to 10% of a mole slightly influences the general changes in the quantitative dependence of the coefficient of absorption on temperature.

"3. The particular analogy between the characteristic of the temperature dependence of the coefficient of absorption and the temperature dependence of ionic conductance for crystals of silver bromide is the significant phenomenon." (U)

SUM. 1345

GRENISHIN, S.G.; NIKOLAYEVSKIY, L.S.; SOLODOVNIKOV, A.A.

Application of the Bouguer Law to the absorption of light by
silver bromide crystals. Zhur.nauch. i prikl.fot i kin. 5 no.5:
327-330 S-O '60. (MIRA 13:12)

1. Gosudarstvennyy opticheskiy institut imeni S.I.Vavilova.
(Silver bromide crystals) (Photochemistry)

AUTHOR: GRENISHIN, S.G., SOLODOVNIKOV, A.A. PA - 2121
 TITLE: The dependence of spectral absorption in silver bromide crystals on temperature. (Zavisimost' spektral'nogo pogloshcheniya v kristallakh bromistogo serebra ot temperatury. Russian).
 PERIODICAL: Zhurnal Tekhn. Fiz., 1957, Vol 27, Nr 2, pp 262 - 268 (U.S.S.R.)
 Received: 3 / 1957 Reviewed: 4 / 1957.
 ABSTRACT: Opinions are divided as to the reason why light is absorbed by silver bromide crystals on the boundary of the spectral band. The absorption of light-quanta on the edge of the bands must lead to the formation of excitons in the crystals. The energy of excitons can be despersed in form of heat or transmitted to the atoms of admixtures which are to be found on the surfaces of the microfissures. Very little is known about the dependence of the long wave range in which absorption takes place on the temperature in the silver bromide crystals, and such data as are available lack accuracy as neither the reflection coefficient nor the thickness of the sample was taken into account. The present paper deals with the problems connected with the dependence of spectral absorption in crystals on temperature. First the experimental method is described. The silver bromide was obtained by precipitation due to the mixing of equivalent quantities of solutions of chemically pure silver nitrate and potassium bromide. Samples

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PA - 2121

The dependence of spectral absorption in silver bromide crystals on temperature.

centration of from 0,01 to 10 Mol% exercises but little influence on the general behavior of the dependence of the amount of the absorption coefficient on temperature.

3) The aforementioned analogy concerning the dependence of the absorption coefficient and interior conductivity on temperature. (7illustrations).

ASSOCIATION: Optical Institute S.I.Vavilov, Leningrad

PRESENTED BY:

SUBMITTED: 18.10.1957.

AVAILABLE: Library of Congress.

Card 3/3

L 24552-66 EWT(1)/EWA (h)

ACC Nr. AP6006321

SOURCE CODE: UR/0413/66/000/002/0043/0043

40
6

: Vavilov, A. A.; Granstrom, M. P.; Solodovnikov, A. I.

Class

TI in infralow frequency generator of sinusoidal oscillations of multiple frequencies. Class 21, No. 177937

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 2, 1966, 43

TO GS: electronic circuit, oscillation, very low frequency, electric generator

ABSTRACT: This Author Certificate presents an infralow frequency generator of sinusoidal oscillations of multiple frequencies. The generator contains a driving generator and a driven generator. The design eliminates the trigger of the frequency divider in the synchronization circuit and also provides compensation of the attenuation of the oscillatory system and simultaneous synchronization of the driven generator by an outside signal. The input of the relay element connected to the positive feed-back circuit of the driven generator is also connected to the driving generator.

SUB CODE: 09/ SUBM DATE: 27Jun63

UDC: 621.373.42

Card 1/1

ACC NR: AP6019618 (A,N)

SOURCE CODE: UR/0048/66/030/002/0271/0277

AUTHOR: Borkin, I.M.; Guzhovskiy, B.Ya.; Rudnev, V.S.; Solodovnikov, A.P.;
Trusillo, S.V.

ORG: none

TITLE: Excitation of isobaric analog states in ²¹Cu-59, Cu-61, Cu-62, Cu-63, and
Cu-65 /Report, Fifteenth Annual Conference on Nuclear Spectroscopy and Nuclear
Structure, held at Minsk, 25 January to 2 February 1965/

SOURCE: AN SSSR. Izvestiya. Seriya fizicheskaya, v. 30, no. 2, 1966, 271-277

TOPIC TAGS: nuclear reaction, inelastic scattering, proton reaction, proton scattering,
nickel, copper, Coulomb interaction, ~~Coulomb energy~~

ABSTRACT: Excitation functions of the ²²Ni^A(p,n)Cu^A reactions for A = 60, 61, 62, and
64, and inelastic proton scattering cross sections of Ni^A for A = 58, 60, 62, and
64 were measured at incident proton energies up to 8 MeV in order to determine the
Ni^A-Cu^A Coulomb energy differences. Targets of 0.2 mg/cm² of Ni on an Au substrate
were employed for the (p,n) measurements for proton energies up to 6.2 MeV, and
2 mg/cm² Ni foils were used for the inelastic scattering measurements and for the
(p,n) measurements at energies above 6.2 MeV. In the (p,n) measurements the neutron
yield was determined at 0° and 90°, and the inelastic proton scattering cross sections
were measured (in arbitrary units) at 90° and 160°. Resonances corresponding to

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88262

S/177/60/000/003/002/002
B023/B066

17.2550

AUTHORS: Yaroshevskiy, V. R., Lieutenant-Colonel of the Medical Service, Solodovnikov, A. V., Major of the Medical Service

TITLE: Changes of Thermoregulation in the Organism of Fighter Pilots During Flight

PERIODICAL: Voenno-meditsinskiy zhurnal, 1960, No. 3, pp. 30-33

TEXT: The authors observed an increased body temperature in fighter pilots after the flight, which is maintained for some time. This phenomenon is due to individual peculiarities of men. In a pre-flight examination of the pilots, the authors measured the body temperature of 67 men repeatedly during one day and after landing, or 5-7 minutes later. The thermometers were numbered and the temperature of each pilot was measured with the same thermometer under the tongue. In 47 men temperature was increased by 0.4-1.5°C after the flight. In 39 men the temperature after the flight was more than 37°C. The most frequent rises in temperature occurred after the first flight, less after the second, and

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Changes of Thermoregulation in the Organism
of Fighter Pilots During Flight

S/177/60/000/003/002/002
B023/B066

still less after the third one. The observation disclosed a dependence of the temperature rise on a number of circumstances. Some missions did not cause a temperature rise in some pilots, while others resulted in a considerable increase. Table 1 shows the results of measurements during daytime, at simple meteorologic conditions. It was found that only the complicated flight missions and the interruptions in their accomplishment were expressed by the character of the temperature change. When repeating a certain kind of flights, the temperature reaction became more seldom. Gradually, it disappeared completely. Table 2 shows the results of measurements carried out under the same meteorologic conditions at different flying operations. The body temperature of experienced pilots rose only half as often as that of beginners, the authors say, and more frequently after a night flight than after a day flight. Since the work of a pilot involves a very large emotional strain, the authors assume that the rise in temperature with fighter pilots may be explained by emotional displacements and by the action of the latter on the thermo-regulative system of the organism. It is, however, not clear why the temperature does not rise before the flight, but afterwards. On the

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basis of their observations the authors suppose that the temperature rises during the flight itself, since at this time the nervous and psychical strain has the greatest effect. Some cases in which the temperature was found to rise prior to flight, may be considered a signal for an increased individual sensibility. The authors point out again that the change of the thermoregulation of the pilot's body depends on the degree of his experience, of the general level of his preparation, on the difficulty of the flight mission and on other factors which determine the work of the pilot. All men in which a rise of body temperature during the flight was observed were subjected to a general medical examination. No pathological symptoms were found. Those pilots whose body temperature rose to more than 37° , were examined again. Also in this case the authors came to the conclusion that the temperature rise is only indicative of an increased response of the organism. The measurement of the blood pressure and pulse offered no other interpretation of the phenomenon discussed. The studies of many years of the aviation medical service justify the application of the so-called individual method in the judgment of the state of health of air crews. And yet, the application of this method

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in the admission of the pilots to the flight is considerably complicated because of the lack of knowledge regarding the cause of the temperature rise after the flights. Data obtained by A. D. Slonim, A. N. Krestovnikov, K. M. Smirnov, N. A. Matyushkina are mentioned. There are 2 tables. ✓

SUBMITTED: October 1959

Card 4/4

AID P - 5327

Subject : USSR/Aeronautics - piloting technique

Card 1/1 Pub. 135 - 6/24

Author : Solodovnikov, A. G., Lt. Col., Mil. pilot class I

Title : Piloting aircraft at supersonic speeds

Periodical : Vest. vozd. flota, 12, 27-29, D 1956

Abstract : This article deals with the piloting technique at supersonic speeds. Particular attention is paid to the behavior of aircraft within the transsonic range and to the peculiarities of piloting technique at transonic speeds. The article is of informative value.

Institution : None

Submitted : No date

67465

SOV/146-2-4-3/19

16.9500

~~9(2)~~

AUTHOR: Vavilov, A.A. Candidate of Technical Sciences, Docent,
Solodovnikov, A.I., Engineer

TITLE: An Instrument for Determining Frequency Characteristics
in the Infra-Low Frequency Range

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Priborostroye-
niye, 1959, Nr 4, pp 19-27 (USSR)

ABSTRACT: This is a detailed engineering account of the design
and performance of a new instrument developed at the
Chair of Automatics and Telemechanics of the Lenin-
grad Electrotechnical Institute imeni V.I. Ul'yanov
(Lenin) (LETI). The instrument determines with a high
accuracy the amplitude and phase characteristics of
frequencies according to the first harmonics progression
of various automatic control systems (follower and
other) and their elements working on direct current
as well as carrier frequencies of 400 - 500 cycles. 4

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SOV146 -2-4-3/19

An Instrument for Determining Frequency Characteristics in the
Infra-Low Frequency Range

The article includes a block diagram of the device (Figure 1), diagrams showing its general working principle (Figure 2), and its measuring system (Figures 3 and 4). An example of logarithmic frequency characteristics of a circuit with a nonlinear element measured by the instrument (Figure 7) is given. A model of the instrument was produced at the LETI. The voltage amplitude of the instrument is 0-100 volts; the frequency of sinusoidal oscillations and the modulation frequency of the carrier frequency variations on the output of the generator is 0.02-50 cycles, the output resistance of the instrument's measuring circuit is 1 megohm, and the measuring range of the voltage amplitude on the input and output of the checked object is 1, 5, 10, 50, 100,

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SOV/146-2-4-3/19

An Instrument for Determining Frequency Characteristics in the
Infra-Low Frequency Range

and 250 volts. The instrument has in every range an accuracy of $1-2^{\circ}$ in phase and of 2% in amplitude. The authors wish to express their gratitude to the engineers F.F.Kotchenko, E.V.Sergeyev, and V.B. Yakovlev for having participated in the development and checking of the device. This article was recommended by the Kafedra avtomatiki i telemechaniki (The Chair of Automati and Telemechanics). There are 5 diagrams, 2 graphs, 1 table, and 2 Soviet references.

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut imeni V.I. Ul'yanova /Lenina/ (The Leningrad Electrical Engineering Institute imeni V.I. Ul'yanov/Lenin) ✓

SUBMITTED: March 31, 1959

Card 3/3

S/119/60/000/06/11/016
B014/B014

AUTHORS: Vavilov, A. A., Candidate of Technical Sciences,
Solodovnikov, A. I., Engineer

TITLE: An Instrument for Recording Frequency Characteristics

PERIODICAL: Priborostroyeniye, 1960, No. 6, pp. 28-29


TEXT: The instrument described here was developed at the Kafedra avtomatiki i telemekhaniki Leningradskogo elektrotekhnicheskogo instituta im. V. I. Ul'yanova (Lenina) (Chair of Automation and Telemechanics of the Leningrad Electrotechnical Institute imeni V. I. Ul'yanov (Lenin)) for the purpose of extending the possibilities of experimental investigation of automatic control systems.⁹ By means of this instrument it is possible to record the amplitude-frequency and phase-frequency characteristics of various linear and non-linear elements of an automatic control system with a high degree of accuracy. Its block diagram is shown in Fig. 1. The instrument further permits the examination of elements using alternating or direct current. Such a device was built by the Laboratoriya avtomatiki i telemekhaniki Leningradskogo elektrotekhnicheskogo

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An Instrument for Recording Frequency
Characteristics

S/119/60/000/06/11/016
B014/B014

kogo instituta (Laboratory of Automation and Telemechanics of the Leningrad Electrotechnical Institute). Finally, the authors give the technical data of this instrument, which records the frequency characteristic of elements using alternating or direct current (carrier frequency of 400-500 cps) according to the first harmonic. There are 4 figures and 1 table.



Card 2/2

S/124/62/000/006/023/023
D234/D308

AUTHORS: Mikhaylov, V. S. and Solodovnikov, A. I.
TITLE: Use of magnetoelastic effect to measure the rotating moment and the detent of propeller shafts
PERIODICAL: Referativnyy zhurnal, Mekhanika, no. 6, 1962, 65-66, abstract 6V563 (Sudostroyeniye, 1961, no. 9, 40-43)

TEXT: Transmitters for measuring the torque and the detent of a shaft, described in the literature, have low sensitivity and besides do not allow separate measurement of torque and detent, since the two kinds of force affect considerably the readings of the transmitters. In the construction of the magnetoelastic transmitter proposed here the arms of an equivalent magnetic bridge formed by sections of the shaft are parallel to the main stresses, and the cores of the transmitters are situated at an angle of 90° in the form of the letter V. This allows nearly complete elimination of the detent during measurement of multisectional transmitters having high sensitivity, simple construction and making it possible

Card 1/2

S/146/62/005/003/007/014
D201/D308

Vavilov, A.A. and Solodovnikov, A.I.

AUTHORS:

TITLE:

Analysis of operation of a very low frequency generator with a limiter

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 5, no. 3, 1962, 53-62

TEXT:

In the present article a ULF generator is described, based on a very low frequency oscillating system and utilizing an amplitude limiter. The oscillating system consists of two integrating amplifiers and of a summing amplifier having an overall feedback chain. The oscillations are produced by a variable local positive feedback chain. The amplitude of oscillations is limited by a double diode limiter. Continuous tuning is obtained potentiometrically. The above principle of ULF generation is used in generators type HГ-2 (HG-2) and HГНК-2 (HGNK-2), for producing sinusoidal oscillations within the frequency range 10^{-2} - 100 c/s with total harmonic content less than 5% for the frequency range 10^{-2} - 0.1 c/s.

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39337
S/146/62/005/004/006/013
D295/D308

9.2586

AUTHORS:

Vavilov, A.A. and Solodovnikov, A.I.

TITLE:

Electronic generator of infra-low frequencies with a relay-type control element

PERIODICAL:

Izvestiya vysshikh uchebnykh zavedeniy. Priborostroyeniye, v. 5, no. 4, 1962, 31-39

TEXT:

The paper gives a mathematical analysis as the basis for the design of a sinusoidal oscillator covering the frequency band 0.0001 - 100 c/s with a harmonic content $\leq 1\%$. The system consists of an integrating amplifier with negative feedback, a second integrating amplifier, a summing amplifier, and a feedback loop containing a relay-type element to compensate for attenuation every half period. Two idealized versions of piece-wise linear characteristics for the relay element are treated by the method of harmonic linearization. Then, from the equation of the oscillatory system in operational form, the resonant frequency and the relative attenuation are obtained, and conditions for self-sustained close-to-sinu-

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Electronic generator ...

S/146/62/005/004/006/013
D295/D308

soidal oscillations are established. The harmonic content is given in graphical form. The output-amplitude stability is shown to be governed mainly by the stability of the characteristic of the relay element. In addition to the low-harmonic content and good amplitude stability the following features revealed by the analysis are emphasized: phase-quadrature voltages can be obtained from the outputs of the first and second integrator; a suitable choice of the parameters gives transientless frequency regulation over a wide band; the circuit lends itself to be driven from an external periodic impulse voltage which permits the design of generators of several sinusoidal or rectangular oscillations of multiple frequencies. One such circuit is discussed in detail. There are 5 figures. ✓

ASSOCIATION: Leningradskiy elektrotekhnicheskiy institut im.
V.I. Ul'yanova (Ienina) (Leningrad Electrotechnical
Institute im. V.I. Ul'yanov (Lenin))

SUBMITTED: June 3, 1961

Card 2/2

VAVILOV, A. A., kand. tekhn. nauk; SOLODOVNIKOV, A. I., aspirant

Measuring techniques and equipment for the experimental determination of the frequency characteristics of automatic control systems. Izv. LETI 59 no.46:74-105 '62. (MIRA 15:10)

(Automatic control)
(Electronic measurements)

AM4016109

BOOK EXPLOITATION

S/

Vavilov, Aleksandr Aleksandrovich; Solodovnikov, Aleksey Ivanovich

Experimental determination of frequency characteristic in automatic systems (Eksperimental'noye opredeleniye chastotny*kh kharakteristik avtomaticheskikh sistem) Moscow, Gosenergoizdat, 63. 0251 p. illus., biblio. 12,000 copies.

TOPIC TAGS: automation, computer engineering, linear automatic system, nonlinear automatic system, frequency characteristics, frequency characteristic experimental determination, sinusoidal input, nonsinusoidal input, infralow frequency generator, automatic system experimental investigation

PURPOSE AND COVERAGE: The book systematizes different methods of experimental determination of frequency characteristics of linear and nonlinear automatic systems and their elements. The theory of operation and synthesis of apparatus for experimental investigation

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of automatic systems is considered. The book is intended for many specialists in automation, engaged in the investigation and adjustment of automatic systems, and also those dealing with the design of apparatus for the experimental investigation of such systems. The book can also be useful for graduate and senior students in higher technical institutions, specializing in the field of automation, computation, and measurement. The authors are grateful to A. V. Fateyev, V. I. Anisimov, and F. F. Kotchenko for valuable advice and help, and also V. V. Semenov for useful remarks during reviewing of the manuscript.

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- Ch. 2. Methods of experimental determination of frequency charac-

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Ch. 4. Infralow frequency sinusoidal oscillation generator - - 184

Ch. 5. Examples of experimental investigation of linear and non-linear automatic systems and their elements - - 222

Literature - - 247

SUB CODE: CP, CG

SUBMITTED: 20May63

NR REF SOV: 102

OTHER: 023

DATE ACQ: 19Dec63

Card 3/3

L 58799-65 EWT(d)/EWP(k)/EWP(v)/EWP(l)/EWP(h) Po-l/Pq-l/Pf-l/Pg-l/Pk-l/Pl-l

JP(c) BC
ACCESSION NR: AP5017813

UR/0286/65/000/011/0042/0043
621.317.361

AUTHOR: Vavilov, A. A.; Solodovnikov, A. I.

TITLE: A method for determining the frequency response of automatic control systems. Class 21, No. 171445

SOURCE: Byulleten' izobreteniy i tovarnykh znakov, no. 11, 1965, 42-43

TOPIC TAGS: automatic control system, frequency response characteristic, integrator

ABSTRACT: This Author Certificate introduces a method for determining the frequency response of automatic control systems by measuring the Fourier coefficient of stationary response for such a system in the case of sinusoidal action on the system. The Fourier coefficient is measured without using multiplication by feeding the steady-state response of the system to an oscillatory unit with two integrators and a single inverter. The oscillatory circuit simulates a conservative linear harmonic oscillator with a natural frequency equal to that of the externally acting force. The integrators in the oscillator model are then switched on for a

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L 58799-65

ACCESSION NR: AP5017813

time which is equal to the period of the externally acting sinusoidal force at the moment when the sine passes through zero with a positive derivative. The in-phase and quadrature components of the response of the system are fixed at the output of the integrators in the oscillator model after they are switched off. In a modification of this method the in-phase and quadrature components of the response harmonics for the system are measured by tuning the natural frequency of the oscillator model to the frequency of the proper harmonic. In another modification the accuracy of the measurements is improved by a special method for tuning the natural frequency of the model. The basic externally acting sinusoidal force is fed to the oscillator model and the tuning is adjusted according to the signal which appears at the integrator which fixes the quadrature component. [14]

ASSOCIATION: none

SUBMITTED: 11Feb63

NO REF SOV: 000

ENCL: 00

OTHER: 000

SUB CODE: IE, EC

ATD PRESS: 4054

dm
Card 2/2

SOLODOVNIKOV, A.N., inzhener.

The DS-2 automatic safety shaft doors. Bezop.truda v prom. 1
no.6:27-28 Je '57. (MIRA 10:7)
(Coal mining machinery)

LEFANOV, Ye.M.; SOLOVYENKO, A.G.; KRYLOV, B.Ye.; NUFEL'MAN, B.I.;
ROZOV, M.N.

Use of radioisotopes in testing the lining of rotary cementation
furnaces. Atom. energ. 19 no.2:204-205 Ag '65. (MIRA 18:9)

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SOLODOVNIKOV, A.S.

Geometrical description of various representations of
Riemann metrics in the form established by Levi-Civita. Trudy
Sem.po vekt.i tenz.anal. no.12:131-173 '63. (MIRA 16:6)
(Distance geometry)

SOLODOVNIKOV, A.S.

Geodetic (projective) transformation of Riemann spaces. Dokl. AN
SSSR 105 no.3:419-422 N '55. (MLRA 9:3)

1. Predstavleno akademikom I.G. Petrovskim.
(Spaces, Generalized)

SOLODOVNIKOV, A. S.

Call Nr: AF 1108825
(Cont.) Moscow,

Transactions of the Third All-union Mathematical Congress
Jun-Jul, '56, Trudy '56, V. 1, Sect. Rpts., Izdatel'stvo AN SSSR, Moscow, 1956, 237 pp.
Skorniyakov, L. A. (Moscow) Homomorphisms of Projective
Planes and T-homomorphisms of Ternaries. 169-171

Smogorzhevskiy, A. S. (Kiyev). On One Metric Geometry.

Solodovnikov, A. S. (Moscow) Projective Transformations
of Riemann Spaces and Spaces With Common Geodesics. 171-172

Tevzadze, G. N. (Tbilisi). On Riemannian Metrics of
Surfaces in a Projective Space. 172

Mention is made of Norden, A. P.

Tuganov, N. G. (Tomsk). Congruence of Surface Indicatrices
in 3-Dimensional Space. 172-173

There are 2 references, both of them USSR.

Udanovskiy, M. A. (Khar'kov). On Holonomy Groups of
Affine Connectivity Spaces. 174
Card 55/80

SUBJECT
AUTHOR
TITLE
PERIODICAL

USSR/MATHEMATICS/Geometry
SOLODOVNIKOV A.S.
Projective transformations of Riemannian spaces.
Uspechi mat. Nauk 11, 4, 45-116 (1956)
reviewed 12/1956

CARD 1/2

PG - 415

The paper contains a detailed representation of the theory of the projective transformations of Riemannian spaces. Some well-known former results of Fubini and Levi-Civita are deduced completely (partially in a somewhat changed form). On the other hand the author brings some own supplements (which partially have been announced, see Doklady Akad. Nauk 105, No.3 (1955)), which permit to give a complete classification of Riemannian spaces with respect to projective groups (which are more extensive than the motion groups). V_n with non-constant curvature are considered. Among these V_n there are seldom such ones which admit a continuous group of projective transformations. A part of these spaces have been given by Fubini (Mem. Acc. Torino (2), 53, 261-313 (1903)). These are spaces the metrics of which have the property that their adjoint metrics are of non-constant curvature. Now the author treats the case of the adjoint metrics of constant curvature too. According to their projective properties the corresponding spaces are similar to the spaces of constant curvature; the set of admissible projective mappings one onto another and into themselves is the greatest after the spaces

Uspechi mat. Nauk 11, 4, 45-116 (1956)

CARD 2/2

PG - 415

of constant curvature. These spaces $V(K)$ form, according to the author, the second group of spaces which admit projective transformations. The third group are spaces with

$$ds^2 = \sum_{\alpha=1}^t ds_{\alpha}^2 ,$$

which only admit affine transformations.

SUBJECT
AUTHOR
TITLE
PERIODICAL

USSR/MATHEMATICS/Geometry
SOLODOVNIKOV A.S.
Spaces with corresponding geodesics.
Doklady Akad. Nauk 108, 201-203 (1956)
reviewed 11/1956

CARD 1/2

PG - 409

Levi-Civita (1896) and Fubini (1903, 1905) have studied two V_n with $ds^2 = g_{ij} dx^i dx^j$ and $d\bar{s}^2 = \bar{g}_{ij} dx^i dx^j$ respectively, which can be geodesically mapped upon each other. Then a coordinate system exists on both surfaces such that ds^2 and $d\bar{s}^2$ assume a specific form, that of

$$ds^2 = \sum_{\alpha=1}^p \pi_{\beta}^{\alpha} |f_{\beta} - f_{\alpha}| ds_{\alpha}^2,$$

where the x^1 are in $p > 1$ groups $x^{1\alpha}$ if i_{α} runs through one set, $f_{\alpha} = \text{const.}$ if i_{α} runs through more than one. Now the "adjoint" form

$$ds^{x^2} = \sum_{\alpha=1}^p \pi_{\beta}^{\alpha} |f_{\beta} - f_{\alpha}| (dy^{\alpha})^2$$

is introduced, which can have constant or variable curvature K . In the latter case the V_n is called of basic type, and in the $K = \text{const.}$

Doklady Akad. Nauk 108, 201-203 (1956)

CARD 2/2

PG - 409

case the V_n is called exceptional. If the ds^2 is of basic type, then it can be mapped on ∞V_2 with

$$ds^2 = (af_1+b)^{-1} \dots (af_p+b)^{-1} \sum_{\alpha=1}^p (af_{\alpha}+b)^{-1} \pi'_{\beta} |f_{\beta} - f_{\alpha}| ds_{\alpha}^2,$$

a, b constants, and the representation in every case is unique. As for the exceptional case, here some remarks are made supplementary to those of the author's paper in Doklady Akad. Nauk 105, 419-422 (1955). If the adjoint ds^2 has not $K = 0$, then the holonomy group of the ds^2 is the full orthogonal group.

SOLODOVNIKOV, A.S.

Geodesic classes of $V(X)$ spaces. Dokl. AN SSSR 111 no.1:33-36 N-D
'56. (MLRA 10:2)

1. Moskovskiy gosudarstvennyy pedagogicheskiy institut imeni V.I.
Lenina. Predstavleno akademikom I.G.Petrovskim.
(Spaces, Generalized)

AUTHOR: Solodovnikov, A.S.

SOV/42-13-6-23/33

TITLE: The Uniqueness of the Maximal K-Decomposition (Yedinstvennost' maksimal'nogo K-razlozheniya)

PERIODICAL: Uspekhi matematicheskikh nauk, 1958, Vol 13, Nr 6, pp 173-179 (USSR)

ABSTRACT: In a coordinate system let the Riemannian metric of constant curvature K have the form

$$(1) \quad ds^2 = ds_0^2 + \overset{1}{G} d\tau_1^2 + \dots + \overset{t}{G} d\tau_t^2,$$

where $ds_0^2, d\tau_1^2, \dots, d\tau_t^2$ are independent metrics, each of which depending on its variables, while $\overset{1}{G}, \dots, \overset{t}{G}$ are functions of the variable x^0 of ds_0^2 . In (1) let every metric $d\tau_\alpha^2$ be replaced by a completely arbitrary metric ds_α^2 . The author states that every metric

$$(2) \quad ds^2 = ds_0^2 + \overset{1}{G} ds_1^2 + \dots + \overset{t}{G} ds_t^2$$

defines a space $V(K)$; (2) is denoted as a K-decomposition of ds^2 (compare [Ref 1]). Now let ds_α^2 , where $\alpha = 1$ or $2 \dots$ or t ,

Card 1/2

The Uniqueness of the Maximal K-Decomposition

SOV/42-13-6-23/33

be representable again in the form $ds_{\alpha}^2 = dv_0^2 + \overset{1}{\lambda} dv_1^2 + \dots + \overset{r}{\lambda} dv_r^2$,

so that the continued representation (e.g. for $\alpha = 1$) $ds^2 =$

$$= [ds_0^2 + \overset{1}{\sigma} dv_0^2] + \overset{1}{\sigma} \overset{1}{\lambda} dv_1^2 + \dots + \overset{1}{\sigma} \overset{r}{\lambda} dv_r^2 + \overset{2}{\sigma} ds_2^2 + \dots + \overset{t}{\sigma} ds_t^2$$

is again a K-decomposition. The K-decomposition (2) is called

maximal if none of the spaces ds_{α}^2 ($\alpha = 1, \dots, t$) is a $V(K_{\alpha})$,

where K_{α} is the constant curvature of $d\tau_{\alpha}^2$ (see [Ref 1]).

Theorem: The maximal K-decomposition is defined uniquely.

There are 3 references, 2 of which are Soviet, and 1 German.

SUBMITTED: February 19, 1957

Card 2/2

13

16(1) .
 AUTHORS: Kruchkovich, G.I., and Solodovnikov, A.S. SOV/140-59-3-14/22
 TITLE: Constant Symmetrical Tensors in Riemannian Spaces
 PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy. Matematika, 1959, Nr 3, pp 147-158 (USSR)
 ABSTRACT: Absolutely parallel tensors are called constant tensors. The authors investigate Riemannian spaces in which there exist constant symmetrical tensors A_{ij} : $A_{ij,k} = 0$, $A_{ij} = A_{ji}$, $A_{ij} = \lambda g_{ij}$. 14 theorems are formulated and proved, e.g.:
 Theorem: If an irreducible Riemannian space admits constant symmetrical tensors $A_{ij} (\neq \lambda g_{ij})$, then among them there exists at least one tensor the square of which either is equal to zero or it distinguishes from the measure tensor only by the sign.
 Theorem: In order that an irreducible V_n admits constant $A_{ij} (\neq \lambda g_{ij})$ it is necessary and sufficient that V_n belongs to one of the following classes: 1) V_n is a Riemannian extension of a Riemannian space V_r , $2r \leq n$; 2) V_n is defined by the real part or the imaginary part of the complex metric

Card 1/2

Constant Symmetrical Tensors in Riemannian Spaces

SOV/140-59-3-14/22

$$\phi = (S_{\alpha\beta} + iT_{\alpha\beta})(dx^\alpha + idy^\alpha)(dx^\beta + idy^\beta),$$

 where $\|S_{\alpha\beta}\|$ and $\|T_{\alpha\beta}\|$ are certain symmetrical matrices of
 the order $m = \frac{n}{2}$.

The authors mention P.A. Shirokov, and A.P. Shirokov. They thank
 P.K. Rashevskiy, whose seminar inspired this report.
 There are 12 references, 6 of which are Soviet, 2 American, and
 4 English.

ASSOCIATION: Moskovskiy energeticheskiy institut (Moscow Power Engineering
 Institute)

SUBMITTED: June 7, 1958

Card 2/2

66725

46(1) / 2200

SOV/20-129-2-10/66

AUTHOR: Solodovnikov, A.S.

TITLE: The Structure of the Centers of Universal Coverings for Non-compact Lie Groups

PERIODICAL: Doklady Akademii nauk SSSR, 1959, Vol 129, Nr 2, pp 272-275 (USSR)

ABSTRACT: All locally isomorphic Lie groups G result from a single simply connected group \tilde{G} (universal covering) by factorization over different discrete central subgroups N :

$$(1) \quad G = \tilde{G}/N$$

so that the knowledge of the center \tilde{Z} of \tilde{G} permits a survey on all groups locally isomorphic to \tilde{G} . In the present paper the author determines the centers of the universal covering group for all classic real noncompact groups. He distinguishes seven types of such groups (3 with structure A, 2 with structure B, 2 with structure C). The group \tilde{G} is interpreted as group of trajectories in G which originate in the unit of the group and are distinguished except homotopy. The subgroup \tilde{Z} consists of the trajectories leading into the elements of the center Z of G , while N consists of the closed trajectories,

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SOV/20-129-2-10/66
The Structure of the Centers of Universal Coverings for Noncompact Lie Groups

so that $N = \pi_1(G)$, where $\pi_1(G)$ is the fundamental group of the space G .

PRESENTED: June 25, 1959, by I.G.Petrovskiy, Academician

SUBMITTED: June 23, 1959

X

Card 2/2

SOLODOVNIKOV, A.S.

"New model of the Lobachevskii plane" by D. Blanusa. Mat. pros.
no.5:241-243 '60. (MIRA 13:12)
(Surfaces) (Geometry, Non-euclidean)
(Blanusa, D.)

SOLODOVNIKOV, A.S.

Spaces with common geodesics. Trudy Sem.po vekt.i tenz.anal.
no.11:43-102 '61. (MIRA 15:3)
(Spaces, Generalized) (Distance geometry)

SOLODOVNIKOV, A.S.

Models of elliptic spaces. Trudy Sem. po vekt. i tenz. anal.
no. 11:293-308 '61. (MIRA 15:3)
(Spaces, Generalized) (Geometry, Non-Euclidean)

SOLODOVNIKOV, A.S.

Geometrical description of all possible representations of Riemannian metric in Levi-Civita's form. Dokl. AN SSSR 141 no.2:322-325 N '61. (MIRA 14:11)

1. Moskovskiy gosudarstvennyy zaochnyy pedagogicheskiy institut.
Predstavleno akademikom I.G.Petrovskim.
(Distance geometry) (Spaces, Generalized)

SIROTA, A.I.; SOLODOVNIKOV, A.S.

Noncompact semisimple Lie groups. Usp. mat. nauk 18 no.3:37-144
My-Je '63. (MIRA 16:10)

ETTERMAN, Izrail' Isayevich; KOBRINSKIY, M.Ye., prof., retsenzent; SOLODOV,
A.V. kand.tekhn.nauk, red.; KOCHETOVA, G.F., red. izd-va;
EL'KIND, V.D., tekhn.red.

[Mathematical computers of continuous action] Matematicheskie
mashiny nepreryvnogo deistviia. Moskva, Gos.nauchno-tekhn.izd-vo
mashinostroit. lit-ry, 1957. 234 p. (MIRA 11:2)
(Electronic calculating machines)

AUTHOR: Solodov, A. V. (Moscow)

103-19-4-4/12

TITLE: Statistical Investigation of nonsteady Processes in Linear Systems by Application of Inverse Model Devices
(Statisticheskoye issledovaniye nestatsionarnykh protsessov v lineynykh sistemakh s primeneniyyem inverznykh modeliruyushchikh ustroystv)

PERIODICAL: Avtomatika i Telemekhanika, 1958, Vol. 19, Nr 4, pp. 312-324 (USSR)

ABSTRACT: Here a method for the application of model devices for the investigation of linear systems in a general nonsteady case is shown. The method is based upon the construction of special structure schemes of modelling by means of which the whole process of computation of the equation (1) can be mechanized, whereby a coupling with real linear regulators with constant parameters (e. g. with RC-circuits) is possible. The theory of the construction of the mentioned schemes (called inverse) is a subsequent development of the idea of coupled systems in application to the transformation of the structure schemes. The

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Statistical Investigation of Nonsteady Processes in
Linear Systems by Application of Inverse Model Devices

103-19-4-4/12

equation (1) determines the relation between the dispersion σ_{output} of the output signal for a certain fixed moment t_g and the correlation function $K_{\text{input}}(u, \xi)$ of the input signal by means of the pulse-transition-function of the system $W(t, \xi)$ (reference 1). The rules for the transformation of the structure scheme are sought. This is done in such a way that their reactions to the input signal of the δ -function-type are equivalent with a change of the corresponding pulse-transition-function $W(t, \xi)$ with respect to the variable ξ at a certain fixed value of t . Analytically this is expressed by the necessity to find the differential equations for the terms and the equation for the relation between the terms with the independent variable ξ . These equations must satisfy the function $W(t, \xi)$, whereby simultaneously this function also must satisfy the output equations for the terms and the equations for the relation with the independent variable t . The systems with the pulse-

Card 2/5

Statistical Investigation of Nonsteady Processes in Linear Systems by Application of Inverse Model Devices 103-19-4-4/12

-transition functions $W(t, \xi)$, which modify according to the variable t in the case of fixed ξ , are called input systems, while the systems with the pulse-transition-functions $W(t, \xi)$, which modify with respect to the variable ξ in case of fixed t , are called inverse systems. The task is to find the rules for obtaining the structure schemes of the inverse systems for inert and forcing circuits, for parallel and series connections of the input systems of general type, and for feedback circuits. The comparison of the structure schemes of the inverse systems with the schemes of the initial systems for all here examined cases allows to set up the following rule: To build up a structure scheme of an inverse system of the structure scheme of the input system it is sufficient to change in the latter one the direction of all the connections between the special systems into the inverse one; the structure of the separate special systems, however, must be changed according to the here given rule for the inversion of the terms. It is shown

Card 3/5

Statistical Investigation of Nonsteady Processes in Linear Systems by Application of Inverse Model Devices "03-9-4-4/12

that the inversion system of the general form with constant parameters is equivalent to the output system. Because of the linearity of examined systems all the here obtained results can also be extended to systems with several outputs and inputs, among them also to matrix schemes. The model schemes for the determination of the mean square deviation of the complete input signal from the intelligence signal are investigated. The modelling of the correlation function of an arbitrary process in a linear system is discussed. Summarily it is stated that the application of the inverse model devices enlarges the possibility to use statistical methods for the analysis and synthesis of the automatic control with variable parameters. The main importance of this method for practice is the possibility to mechanize completely the whole process of the determination of the dispersion of the error and, if necessary, to use real linear regulators with constant parameters, the equations of which may be unknown as consistence elements of the model devices. The accuracy of the obtained results essentially depends

Card 4/5

Statistical Investigation of Nonsteady Processes in 103-19-4-4/12
Linear Systems by Application of Inverse Model Devices

on the accuracy of the used model devices. There are
8 figures, 2 tables, and 4 references, 2 of which are
Soviet.

SUBMITTED: May 7, 1957

AVAILABLE: Library of Congress

1. Linear systems--Analysis

Card 5/5

103-19-7-3/9

AUTHOR: Solodov, A. V. (Moscow)

TITLE: On the Conversion of the Initial Conditions at the Output of a Linear System With Variable Parameters Into an Equivalent Input Signal (O preobrazovanii nachal'nykh usloviy na vykhode lineynoy sistemy s peremennymi parametrami v ekvivalentnyy vkhodnoy signal)

PERIODICAL: Avtomatika i telemekhanika, 1958, Vol. 19, Nr 7, pp. 654 - 660 (USSR)

ABSTRACT: In order to consider the initial conditions in linear systems with variable parameters arbitrary constants of the general solution of the system equation must be found. Besides always a uniform procedure in the system analysis is desired. This process is based upon the investigation of the influences on a system not excited previously where the basic dynamic characteristic of the system - the pulse transmission function can be used to obtain the initial process. This, however, requires the transformation of the initial conditions at the system output into an equivalent signal at the input. I.e. a transformation of the excited system into a previously not excited one, but with an input signal of varied shape. Such a transformation is

Card 1/2

On the Conversion of the Initial Conditions at the 103-19-7-3/9
Output of a Linear System With Variable Parameters Into an Equivalent Input
Signal

possible under application of the delta functions of various order with some factors obtained by certain means used as an equivalent input signal of the linear combination. This is performed and the formula (21) for the wanted input signal to the system not previously excited is derived. This signal causes a process at the output which is equivalent to the process at the output of an excited system with the initial conditions (9). On this occasion the output process can be expressed in form of equation (22) by means of the pulse transmission function of the system $G(t, \xi)$ on the basis of formula (8). The inverse problem can also be solved by means of (20) and (21). The values of the initial conditions which are formed at the output of the system which is still at rest in the moment when the input signal in the form (21) is applied can be determined.- There are 3 references, 1 of which is Soviet.

SUBMITTED: October 27, 1956

1. Control systems—Analysis 2. Control systems—Performance

Card 2/2

SOLCDOV, A.V. (Moskva)

Structural transformations of linear systems with varying parameter
[with summary in English]. Avtom. i telem. 22 no.5:577-583 My '61.
(MIRA 14:6)

(Automatic control)

PHASE I BOOK EXPLOITATION

SOV/6082

Solodov, Aleksandr Vasil'yevich

Lineynyye sistemy avtomaticheskogo upravleniya s peremennymi parametrami
(Varying-Parameter Linear Systems of Automatic Control). Moscow,
Fizmatgiz, 1962. 324 p. 10,000 copies printed.

Ed.: F. S. Petrov; Tech. Ed.: V. N. Kryuchkova.

PURPOSE: This book is intended for scientific and technical personnel concerned
with the study and development of automatic control systems.

COVERAGE: The book discusses the theory of the structural transformation of
systems, methods of determining pulse transfer functions, dynamic errors
in varying-parameter servosystems, methods of system simulation, the
theory of inverse systems, and other problems relating to the theory of
varying-parameter linear automatic control systems. Other problems
indirectly concerning theory (e. g., the theory of random functions) are
mentioned. According to the Foreword this manual is the first systematic

Card 1/1

KLEBANOV, G. Ya.; ABEL'SKIY, A. M.; BEYDER, A. V.; VAYNER, S. V.;
VLASIK, V. S.; GOL'DFEDER, Ya. M.; DUDKINA, D. F.; ZHURAVLEVA,
L. D.; KANE, D. B.; KUBALNOV, M. L.; KOLODEZNAYA, T. B.;
KUTASNIKOV, V. Ya.; SOLODOVNIKOV, B. M.; STROYMAN, L. A.;
SHUMKOVA, N. S.

Results of dispensary treatment of occupational dermatoses in
the clinics of Leningrad. Vest. dermat. i ven. 36 no.6:58-62
Je '62. (MIRA 15:6)

1. Iz kozhno-venerologicheskikh dispanserov No. 1, 2, 3, 5, 9,
10, 11, 12, 13, 14, 15, 17, 18, 19, 22 (nauchnyy rukovoditel' -
chlen-korrespondent AMN SSSR prof. P. V. Kozhevnikov)

(LENINGRAD--OCCUPATIONAL DISEASES)
(SKIN--DISEASES)

SOLODOVNIKOV, B. V.

"Frequency of Occurrence of Roentgenomorphoses as Dependent Upon X-Ray Dosage," Dok. AN, 30, No. 5, 1941. -c1941-.

МОНГОЛ, Н. А.

Soledovnikov, V. A. "Summer planting of potatoes in Kazakhstan", Byulleten' po plodovodstvu, vinogradarstvu i ovoshevevodstvu, No. 6, 1947, p. 161-72.

SC: U-4392 19 August 53, (Ietopis 'Zhurnal 'nykh Statey, No 21, 1949).

1. BIRCH, B. MASSACHUSETTS, U.S.A.

Birch

Growing barbed Birch without a v-r. Les. Khor., No. 12, 1951.

Monthly List of Russian Accessions. Library of Congress, April 1952. UNCLASSIFIED.

L 20051-65 EEC-4/ENG(v)/EWA(h)/ENG(s)-2/EWT(1)/EEC(t)/FS(v)-3/FCC/FST(h)/
EWA(d)/FSS-2 Po-5/P1-4/Po-4/Pq-4/Pas-2/Peb SSD(c)/RAEM(a)/ESD(c)/ESD(t)
ACCESSION NR: AP5000531 TT/GW/WS S/0203/64/004/006/1124/1125

AUTHOR: Misyura, V.A., Solodovnikov, G.K., Migunov, V.M.

TITLE: The gradients of the integral electron content in the ionosphere

SOURCE: Geomagnetizm i aeronomiya, v. 4, no. 6, 1964, 1124-1125

TOPIC TAGS: ionosphere, coherent frequency, geometrical optics, ionization gradient, satellite velocity, Kosmos-11 satellite, electron distribution

ABSTRACT: The integral electron content in the ionosphere between the emitter and the receiving point is connected with the phase difference of the coherent frequencies. The behavior of the known gradient of the integral electron concentration along the orbit of an artificial earth satellite makes it possible to determine the changes in the entire ionosphere below the satellite from day to day as well as at different times of the day. The data produced by 46 different observations of the Kosmos-11 artificial earth satellite have been processed by the authors. That satellite was equipped with a Mayak transmitter which emitted coherent frequencies of 20.005 and 90.0225 megacycles. There were considerable differences in the structure of the ionosphere, below the satellite, during its "daytime" and "night" flights. "The authors express their gratitude to Ya. L. Al'pert for his

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Cara

L 20051-65
ACCESSION NR: AP5000631

assistance in the experiment and his constant interest in the project." Orig. art. has:
2 formulas and 2 figures.

ASSOCIATION: none

SUBMITTED: 17Jun64

ENCL: 00

SUB CODE: ES, SV

NO REF SOV: 003

OTHER: 000

Card 2/2

L 1546-66 BWT(1)/FCC/EWA(h) GS/W
ACCESSION NR: AT5023575

UR/0000/65/000/000/0138/0147

AUTHOR: Misyura, V. A.; Solodovnikov, G. K.; Krokhmal'nikov, Ye. B.; Migunov, V. M.

TITLE: Ionospheric observations by artificial earth satellites and rockets

SOURCE: Vsesoyuznaya konferentsiya po fizike kosmicheskogo prostranstva. Moscow, 1965. Issledovaniya kosmicheskogo prostranstva (Space research); trudy konferentsii. Moscow, Izd-vo Nauka, 1965, 138-147

TOPIC TAGS: artificial earth satellite, geophysical rocket, Kosmos 11, Elektron 1, Doppler effect, Faraday effect, ionosphere, ionosphere profile, electron concentration

ABSTRACT: Results are presented of radiophysical observations of the outer ionosphere by means of the Kosmos-11 and Elektron-1 artificial earth satellites and geophysical rockets. Two methods were used for this purpose: the Doppler frequency shift at coherent frequencies and the rotational Doppler effect (Faraday effect) at fixed frequencies, simultaneously at one or several points. The Kosmos-11 and Elektron-1 observations yielded the value of the local electron concentration along the satellite orbit with satisfactory accuracy. From these, a profile of the ionosphere up to 2000 km was plotted. The histograms of ionospheric inhomogeneity layers were

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L 1546-66

ACCESSION NR: AT5023575

plotted for various phases of the solar activity and at different times of the day. From these, two stable maxima in the 15—30 and 150—190 km regions were observed. The vertical profiles of the ionospheric electron concentration obtained by means of geophysical rockets at 48 and 144 Mcs during 18 October 1962 are shown for the middle latitudes of the USSR. Also shown are the normed profiles obtained during different cycles of the solar activity. Orig. art. has: 9 figures and 12 formulas. [YK]

ASSOCIATION: none

SUBMITTED: 02Sep65

NO REF SOV: 011

ENCL: 00

OTHER: 002

SUB CODE: ES, SV

ATD PRESS: 4098

Card 2/2

L 2472-66 FSS-2/ENT(1)/FS(V)-3/FCC/EWA(d)EWA(h)
ACCESSION NR: AP5021252

TI/GW

UR/C293/65/003/004/0595/0603
350.388.1:629.195.2

51
5

AUTHOR: Misyura, V. A.; Solodovnikov, G. K.; Migunov, V. M.

TITLE: Measurement of electron concentration in the upper ionosphere by Kosmos satellites

SOURCE: Kosmicheskiye issledovaniya, v. 3, no. 4, 1965, 595-603

TOPIC TAGS: upper atmosphere, electron density, satellite/Kosmos satellite

ABSTRACT: The electron concentration^V in the upper ionosphere was measured in October 1962 by determining the phase difference of two coherent signals transmitted from Kosmos II on 20.005 and 90.0225 Mc and received by stations at two different locations in the USSR. Data from 46 observation periods were collected and graphs were plotted of the local electron concentration as a function of time along the satellite path. It was found that local electron concentration N_B increased by a factor of 3-4 at the same altitude during passage of the satellite from night to day. For several consecutive days, N_B values repeated themselves within a 20% deviation. Pinching of the upper ionosphere was noted during the transition from maximum to minimum solar activity. Analysis of spectra of ionospheric inhomogeneities showed

Card 1/2

BVK
Card 2/2

L 2467-66 FSS-2/EWT(1)/FCC/EWA(h) GW

ACCESSION NR: AP5021253

UR/0293/65/003/004/0604/0613

350.388.1:629.195.2

47

C

AUTHOR: Misyura, V. A.; Osipov, D. D.; Krokmal'nikov, Ye. B.; Solodovnikov, G. K.

TITLE: Some possibilities and results of ionospheric measurements obtained by oblique observation of the Faraday effect of signals from geophysical rockets

SOURCE: Kosmicheskiye issledovaniya, v. 3, no. 4, 1965, 604-613

TOPIC TAGS: ionosphere, geophysical rocket, Faraday effect, diversity reception

ABSTRACT: A method is proposed for determining the vertical distribution of electron concentration and the electron content in a unit ionospheric column, and also their horizontal gradients. The method consists in the diversity reception of radiowaves transmitted by satellites and geophysical rockets. It was used in the observation of the Faraday effect of coherent radio emission on 48 and 144 Mc from a rocket launched on 18 October 1962 to an altitude of 500 km. The smooth, vertical, ionospheric profiles obtained are closely approximated in the F_2 region by the parabolic-exponential model. The concept of ionospheric contraction during decreased solar activity also was confirmed. The agreement of these results with those obtained by vertical sounding of the ionosphere and by the dispersion interferometer method confirmed the

Card 1/2

L 2467-66

ACCESSION NR: AP5021253

validity of the proposed diversity reception method. Orig. art. has: 5 figures,
13 formulas, and 2 tables. [WC]

ASSOCIATION: none

SUBMITTED: 19Oct64

NO REF SOV: 008

ENCL: 00

OTHER: 001

SUB CODE: ES,
SV

ATD PRESS: 4106

EVR

Card 2/2

L 01255-67 EWT(1)/FSS-2/FCC GW/TT

ACC NR: AP6032688

SOURCE CODE: UR/0203/66/006/005/0852/0857

AUTHOR: Misyura, V. A.; Solodovnikov, G. K.; Migunov, V. M.

54
B

ORG: none

TITLE: Electron concentration in the upper ionosphere, measured by observing coherent signals from the Kosmos and Elektron satellites

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 5, 1966, 852-857

TOPIC TAGS: ionospheric electron density, satellite data analysis

ABSTRACT: Radio signals from the Kosmos-11, Elektron-1, and Elektron-3 satellites have been used to calculate the electron density of the upper ionosphere. The calculation method is that used in earlier Kosmos studies, which is based on measuring the relative Doppler shift between two r f signals simultaneously received from the satellite. The following frequencies were used: Kosmos-11, 20.0048 and 90.0216 mc; Elektron-1, 20.005 and 30.0075 mc; and Elektron-3, 20.005, 30.007, and 90.022 mc. Receiving stations were widely enough separated to permit simultaneous recording of signals at high elevation and near-horizon line-of-sight angles, and thereby measure the effect of different transmission paths through the ionosphere. The electron density profiles with altitude were determined independently at each receiving station, and agreed tolerably well. A comparison of daily and seasonal concentration profile variation is given in the figure; all three curves corresponded

Card 1/2

UDC: 550.388.2:629.195.2

L 01255-67

ACC NR: AP6032688

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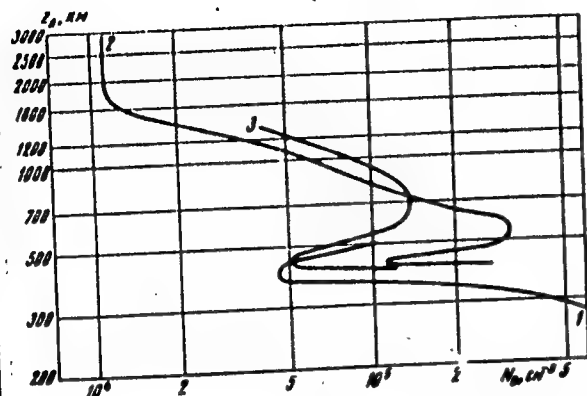


Fig. 1. Electron density vs. altitude

- 1 - Kosmos-11, Oct. 1962, 6:30—10:00 am;
- 2 - Elektron-1, Feb.—Mar. 1964, 12:30 pm — 8:00 pm;
- 3 - Elektron-3 Aug.—Sept. 1964, 4:00 pm - 1:30 am (Moscow Standard Time).

to periods of low or minimum solar activity. The authors speculate on the nature of the pronounced dip in the profile, noted in the 400—500 km altitude region. They suggest that their data may indicate the existence of a previously unidentified additional ionospheric layer above the F2 layer which varies either sporadically or regularly. Orig. art. has: 2 formulas and 6 figures. [SH]

SUB CODE: ~~55~~ SUBM DATE: 02Aug65/ ORIG REF: 013/ OTH REF: 002/ ATD PRESS: 5097

Card 2/2 hs

SOLODOVNIKOV, G. M., KALASHNIKOV, V. G., [A.G.], PETROVA, G. N., LYBKIN, E. Y.,
BOLSHAKOVA, K. Y., and KOZISHOVA.

"Daily Variation of Short-Period Pulsations as a Function of Geographic
and Geomagnetic Coordinates,"

paper submitted, 5th Gen. Assembly, CSAGI, Intl. Geophysical Year, Moscow 1-9
August 1958

BOL'SHAKOV, A. S.; SOLODOVNIKOV, G. M.; SKOVORODKIN, Yu. P.

Causes of the inverse magnetization of the Lower Quaternary
lavas of Armenia. Part 1. Izv. AN SSSR.Ser.geofiz. no. 4:
525-531 Ap '64. (MIRA 17:5)

1. Institut fiziki Zemli AN SSSR i Geofizicheskaya stantsiya
"Borok".

BOI'ISHAKOV, A. S.; SOLODOVNIKOV, G. M.; SKOVORODKIN, Yu. P.

Causes of the appearance of reverse magnetization of the
Lower Quaternary Armenian lavas. Part 2. Izv. AN SSSR. Ser.
geofiz. no. 17:7 (MIRA 17:7)
1918 Ja '64.

1. Institut fiziki Zemli AN SSSR i Geofizicheskaya stantsiya
"Borok".

SOURCE CODE: UR/0203/66/006/004/0749/0753

ACC NR: AP7007043

AUTHOR: Bol'shakov, A. S.; Solodovnikov, G. M.
ORG: Geophysical Observatory "Borok", Institute of Physics of the
Earth, AN SSSR (Geofizicheskaya observatoriya "Borok", Institut fiziki
Zemli, AN SSSR)

TITLE: Magnitude of the geomagnetic field in the lower quaternary
in Armenia

SOURCE: Geomagnetizm i aeronomiya, v. 6, no. 4, 1966, 749-753

TOPIC TAGS: earth magnetic field, magnetization / Basargecharskiy region

SUB CODE: 20

ABSTRACT: This paper gives the results of study of the magnitude of the
earth's magnetic field in the Lower Quaternary in the Basargecharskiy
region of Armenia. The objects for study were Lower Quaternary cover-
ing andesite-basaltic lavas with direct and reversed magnetization and
sedimentary rocks modified by these lavas. The measurements were made
by successive Thellier heatings. It was found that the magnitude of
the earth's magnetic moment prior to the last inversion of the geomagnetic
field and directly after it differs very little from the magnetic moment of
the present day. The observed differences can be attributed to secular
variations. Orig. art. has: 2 figures, 4 formulas and 3 tables. [JPRS:
38,677]

UDC: 560.389

Card 1/1

SOLODOVNIKOV, G. S.

PA 164T41

USSR/Medicine - Electric Shock

Jul 50

"Participation of VNITOE in Measures to Combat
Electrical Injury," G. S. Solodovnikov, Cand Tech
Sci

"Elektrichestvo" No 7, pp 91-92

States number of casualties from electrical injury,
particularly electric shock, has decreased in re-
cent years. Sets out further plans for prevention
of electrical injury. Lists number of reports on
this subject by research workers and engineers
whose efforts are coordinated by VNITOE.

164T41

SOLODOVNIKOV G. S., Docent

USSR/Electricity - Transmission Lines Oct 51
Fittings, Protective

"Protective Fittings for High-Voltage Transmission Lines," Docent G. S. Solodovnikov, Cand Tech Sci, Leningrad Elec Eng Inst iment Ul'yanov (Lenin)

"Elektrichestvo" No 10, pp 15-20

Analyzes and generalizes basic requirements for protective equipment of high-voltage transmission lines. The studies were made by

201T37

USSR/Electricity - Transmission Lines Oct 51
(Contd)

the author jointly with a group of scientific workers, headed by A. A. Gorev, in the Leningrad Polytech Inst. Submitted 11 Apr 51.

201T37

SHATILEV, M. A., ZALYSSKIY, A. M., ZHURDEV, V. P., TELUSHEV, E. A.
 ZHUREBIN, S. M., ARKHANGEL'SKIY, F. K., BAUMGOL'TS, A. I.,
 ZOLOTAREV, T. L., BUSHUYEV, M. N., PROSKURYAKOV, V., GURVICH, A. M.,
 YES'MAN, A. I., SHVETS, F. T., KONIRAT'YEV, G. M., USOV, S. V.,
 ALFES'YEV, A. YE., BOLOTOV, V. V., TIKHODEYEV, I. M., GERASIMOV, N. V.
 MELENT'YEV, L. A., LEVIT, GO. O., ORLOVSKIY, A. V., VEDIKHOV, V. M.,
 STRIKOVICH, M. A., GREYNER, L. K., NIKIFOROV, V. V., SOLODOVNIKOV, G. S.
 SMIRNOV, S. P., ZOLOTAREVA, N. A., KALEKINA, N. M., GOL'DMERSHTEYN, T. L.,
 KLEBANOV, L. D., SALUYEV, N. F., ZAIKO, A. A., MARTEKS, M. F.

A. S. Pamyatnov, Obituary. Elektrichestvo, No. 2, 1952

SO: Monthly List of Russian Accessions, Library of Congress, July 1952 ~~1953~~, Uncl.

SOV/112-59-1-59

Translation from: Referativnyy zhurnal. Elektrotehnika, 1959, Nr 1, p 4 (USSR)

AUTHOR: Solodovnikov, G. S., and Ushinskaya, O. F.

TITLE: Relative : Hazards of Higher-Frequency Electric Currents

PERIODICAL: Tr. Konferentsii po elektrotравме, 1956, Frunze,
AS Kirgizskaya SSR, 1957, pp 159-164

ABSTRACT: Bibliographic entry.

Card 1/1

SOV/137 58-11-23852

Translation from: Referativnyy zhurnal. Metallurgiya, 1958, Nr 11, p 283 (USSR)

AUTHORS: Solodovnikov, G. S., Ushinskaya, O. F.

TITLE: On the Problem of Relative Danger of High-frequency Currents (K voprosu o sravnitel'noy opasnosti tokov povyshennykh chastot)

PERIODICAL: V sb.: Prom. primeneniye tokov vysokoy chastoty. Riga, 1957, pp 390-396

ABSTRACT: Investigation of the irritating effect of high-frequency alternating current on animals and people showed that: Changes in the amperage are similar in character to the changes in the irritating current (IC); the amperage of IC changes little within the lower F range, but increases rapidly with frequency (F) of the order of 5000 cps; the character of the variation of IC and its magnitude is also dependent on the area of the electrode; in the 16-1000 cps range there is practically no noticeable decrease in the danger of the electric current upon the increase of its F; a noticeable decrease of the effect occurs when currents have a F over 2500 cps; currents with F of 200 and 500 cps are no less active biologically and, therefore, no less dangerous than currents of industrial F; the extent of protective measures

Card 1/2

SOV/137-58-11-23852

On the Problem of Relative Danger of High-frequency Currents

in connection with electrical apparatus operating at 200 and 500 cps should be the same as that in industrial F (50-cps) installations.

Ye. L.

Card 2/2

SOLODOVNIKOV, G S., kand.tekhn.nauk. dotsent

Problem concerning the relative danger of low-voltage a.c. and
d.c. Izv. LETI 57 no.39:250-256 '59. (MIRA 15:10)
(Electricity, Injuries from)

SOLODOVNIKOV, G.S., kand.tekhn.nauk

Comparative danger of low-voltage direct and alternating currents.
Prom.energ. 15 no.3:21-24 Mr '60. (MIRA 13:6)
(Electric currents)

SOLODOVNIKOV, G.S., kand.tekhn.nauk, dotsent

Voltage magnitude acting on a man coming in contact with current-carrying components. Vop.elektropat.i elektrotrav. 1:37-40 '61.
(MIRA 15:10)

1. Leningradskiy elektrotekhnicheskii institut im. V.I.Ul'yanova
(Lenina).

(ELECTRICITY--PHYSIOLOGICAL EFFECT)

SOLODOVNIKOV, G.S.

Present status of the problem of the danger of high-frequency
currents. Vop. Elektropat., Elektrotravm. i Elektrobezop.
3:5-21 '62. (MIRA 16:12)

1. Leningradskiy elektrotekhnicheskii institut imeni V.I.Ul'yanova
(Lenina).

ACC NR: AM7004069

Monograph

UR/

Solodovnikov, Georgiy Sergeyevich

Electric safety during work on ships and under water (Elektrobezopasnost' pri rabote na sudakh i pod vodoy) Leningrad, Izd-vo "Sudostroyeniye", 66.
0182 p. illus., biblio. 2,900 copies printed

TOPIC TAGS: electric equipment, ship, electric network, electric current, electric protective equipment

PURPOSE AND COVERAGE: This book presents an analysis of electric safety equipment used on ships and during work under water, and the results of research done to determine the comparative danger of direct and alternating currents used in these devices. The significance and role of protective measures taken to ensure necessary electric safety conditions are examined. The statistics of injuries caused by electricity are shown and means to decrease their number are indicated. The book is intended for engineers and technicians of the shipbuilding industry engaged in problems of safe working conditions, and for ship electricians. It can likewise be useful to students of higher institutions of learning, technical schools, maritime and river schools, who specialize in the electric equipment of ships.

UDC: 621.316.95:629-12

Card 1/3

ACC NR: AM7004069

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- Ch. 2. The influence of various factors on the degree of seriousness of the injury due to electrical current -- 18
- Ch. 3. Comparative danger presented by direct and alternating current used in ship installations -- 34
- Ch. 4. Comparative danger presented by currents of different frequencies used in ship installations -- 48
- Ch. 5. Analysis of safety conditions systems of distribution of electric power on ships -- 57
- Ch. 6. Safety requirements for the installation, disposition and exploitation of ship electric equipment -- 79
- Ch. 7. Isolation and its part in ensuring electric safety on ships -- 101
- Ch. 8. Grounding and its part in ensuring the electric safety on ships -- 126
- Ch. 9. Investigation of conditions of electric safety during underwater work -- 145

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ACC NR: AM7004069

Ch. 10. Analysis of the causes of injuries due to electricity on ships and in
ports -- 160

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SUB CODE: 20, 09, 19, 13/ SUBM DATE: 19Feb66/ ORIG REF: 141/
OTH REF: 044

Card 3/3

SEMIKHOV, V.I.; BASHCHIN, A.N.

Work on crosscutting at the No.3-3a Mine in the Mirovsk Basin.
(MIRA 17:2)

Exp. 22 no.5:28-30 by '64.

SOLODOVNIKOV, I.

This is how they achieve success. Okhr. truda i sots. strakh.
6 no.10:16-17 0 '63. (MIRA 16:11)

1. Glavnyy tekhnicheskii inspektor Kemerovskogo promyshlennogo
oblastnogo soveta professional'nykh soyuzov.